

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

Translation

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing
(day/month/year)

Applicant's or agent's file reference

R8798WO

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/FR2004/000955

International filing date (day/month/year)

16.04.2004

Priority date (day/month/year)

18.04.2003

International Patent Classification (IPC) or both national classification and IPC

Applicant

FRANCE TELECOM

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP

Authorized officer

Facsimile No.

Telephone No.

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Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. II

Priority

1. ☒ The following document has not yet been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

1. Statement

Novelty (N)

Claims 1-18

YES

Claims

NO

Inventive step (IS)

Claims 8-12, 17

YES

Claims 1-7, 13-16, 18

NO

Industrial applicability (IA)

Claims 1-18

YES

Claims

NO

2. Citations and explanations:

1 Reference is made to the following documents in the present notification:

D1: MARTIN DEVERA: "Hierarchical Token Bucket theory" INTERNET PUBLICATION, [Online]
5 May 2002 (2002-05-05), XP002255408 Extract from the Internet:
URL:luxik.cid.cz/~devik/qos/htb>; [extracted on 23 September 2003]

D2: HUBERT, VAN MOOK ET ALL: "Linux Advanced Routing and Traffic control" INTERNET PUBLICATION [Online] 22 July 2002 (2002-07-22), XP002255410 Extract from the Internet:
URL:www.tldp.org/HOWTO/adv-routing-HOWTO/>; [extracted on 23 September 2003]

2 The slight lack of clarity regarding the definition and the management of the N levels of tokens of the multilevel bucket make it possible to consider Hierarchical Token Bucket (HTB) as in D1 or D2 or else the more conventional Weighted Round Robin (WRR) applied to a Token Bucket Filter as very similar to claim 1 (and the corresponding claims 14,

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15, 18 in other categories) thereby implying that claims 1, 14, 15 and 18 do not satisfy the requirements of the PCT as regards inventive step (PCT Article 33 (3)).

In particular the quanta associated with the WRR or with the Deficit Round Robin or the bandwidth levels of the classes of the HTB may be likened to the insufficiently defined tokens of claim 1, the said tokens contained in the memories to allow the sending of packets, likewise for the action of borrowing tokens from other priority levels is a known choice for allowing the traffic classes of higher priorities to comply with their timing constraints.

Nevertheless, the description ought to make it possible to define the role of the tokens, the borrowing function and the management of the N levels of tokens in such a way that the contribution of the invention as compared with HTB will become clear and not derivable from the prior art.

- 4 Remark concerning the cited document L:
Document L cited has unfortunately no publication date or year of copyright but is very useful for understanding HTB in particular it makes it possible to summarize what HTB represents (succession of token buckets organized in classes of various priorities).